

SUPPLEMENTARY MATERIALS (SM)

SUPPLEMENTARY METHODS

Human brain (Superior Temporal Gyrus=STG) *NTNG* transcriptome reconstruction of SCZ patients and healthy subjects

All calculations were performed on two servers (HP ProLiant ML350 and DELL Precision 670) running FreeBSD operating system (v9.2) by using freely available software manually compiled from its source code.

RNA-seq data analysis of the dataset E-MTAB-1030.

Raw reads (2 groups, 9 samples in each group, 13.1 ~ 39.2 million 76 base pairs single end reads per sample, FASTQ file format) were downloaded from ArrayExpress [1] and aligned to a human reference genome by using TopHat v.2.0.8b [2] which calls BowTie v.2.1.0 [3]. Reference genome sequence, genome indexes and GTF-file containing genes annotations (version hg19 of UCSC build) adapted for using with TopHat/Cufflinks software suite were downloaded from “iGenomes” project's web site [4]. Each sample was processed by TopHat individually, using following command line options:

--library-type fr-unstranded --microexon-search --no-coverage-search -G genes.gtf

TopHat's output was passed then to Cufflinks v.2.1.1 [5] using the following command line:

\$ cufflinks --library-type fr-unstranded -g genes.gtf C01_accepted_hits.bam

and so on.

Transcript models generated during the first stage of Cufflinks processing (“transcripts.gtf” files from each sample) were combined into a single GTF file by using Cuffcompare software – a part of Cufflinks software suite, using default command line options. Resulting single file was used then as a reference file during the second stage of Cufflinks processing, when Cufflinks runs in quantification-only mode, without discovering novel isoforms. Output files generated by the Cufflinks (3 files per each run, containing RPKM values of genes, isoforms and transcripts expression) were processed by custom Python script. The script combines Cufflinks results from all samples into one file with sample labels added and limiting of output information to following genome *loci* known to contain *NTNG1* and *NTNG2*:

chr1:107500000-108100000

chr9:135000000-135200000

chr7:127600000-127700000

chr11:40000000-41500000

The resulted file was then inspected and analyzed manually in order to check for the presence of multiple either non-annotated transcripts, transcripts with varying boundaries or transcripts retained after the splicing upstream or downstream introns.

SNPs detection

Single nucleotide polymorphism detection was done by using two different approaches.

Approach 1 (per-sample SNP detection).

1. Remove duplicated reads from each alignment file generated by TopHat:

```
$ samtools rmdup -s C01_accepted_hits.bam C01_accepted_hits_rmdup.bam
```

2. Detect SNPs using 'multi pileup' pipeline provided by "SAMtools" software package, version 0.1.19-44428cd [6], processing each sample individually:

```
$ samtools mpileup -E -u -f genome.fa -b C01_accepted_hits_rmdup.bam | bcftools view -bvcg - > C01_variants.raw.bcf  
$ bcftools view C01_variants.raw.bcf / vcftools pl varFilter -D100 > C01_variants.fltr.vcf
```

Files containing filtered SNPs obtained from different samples were combined into one file, by using custom Python script while keeping each sample's label.

Approach 2 (per-group SNP detection).

1. Merge C*_accepted_hits.bam files (all controls samples) into one file, sorted by chromosome name by using 'samtools merge' routine:

```
$ samtools merge -l 1 -@ 4 accepted_hits_ctrl.bam [list of input bam files]
```

2. Do the same for samples obtained from all SCZ patients:

```
$ samtools merge -l 1 -@ 4 accepted_hits_schz.bam [list of input bam files]
```

3. Remove duplicated reads from each file:

```
$ samtools rmdup -s accepted_hits_ctrl.bam accepted_hits_ctrl_rmdup.bam
```

```
$ samtools rmdup -s accepted_hits_schz.bam accepted_hits_schz_rmdup.bam
```

4. Detect SNPs on per-group basis using 'multi pileup' pipeline:

```
$ samtools mpileup -E -u -f genome.fa -b accepted_hits_ctrl_rmdup.bam | bcftools view -bvcg - > variants_ctrl.raw.bcf
```

```
$ bcftools view variants_ctrl.raw.bcf / vcftools pl varFilter -D100 > variants_ctrl.fltr.vcf
```

```
$ samtools mpileup -E -u -f genome.fa -b accepted_hits_schz_rmdup.bam | bcftools view -bvcg - > variants_schz.raw.bcf
```

```
$ bcftools view variants_schz.raw.bcf / vcftools pl varFilter -D100 > variants_schz.fltr.vcf
```

Supplementary References

- [1] E-MTAB-1030 dataset: <https://www.ebi.ac.uk/arrayexpress/experiments/E-MTAB-1030/>
- [2] Trapnell C, Pachter L, Salzberg SL. TopHat: discovering splice junctions with RNA-Seq. *Bioinformatics*. 2009;25(9):1105-1111. doi:10.1093/bioinformatics/btp120.
- [3] Langmead B, Trapnell C, Pop M, Salzberg SL. Ultrafast and memory-efficient alignment of short DNA sequences to the human genome. *Genome Biology*. 2009;10(3):R25. doi:10.1186/gb-2009-10-3-r25.
- [4] “iGenomes” project: http://support.illumina.com/sequencing/sequencing_software/igenome.html
- [5] Trapnell C, Hendrickson DG, Sauvageau M, Goff L, Rinn JL, Pachter L. Differential analysis of gene regulation at transcript resolution with RNA-seq. *Nature biotechnology*. 2013;31(1):10.1038/nbt.2450. doi:10.1038/nbt.2450.
- [6] Li H, Handsaker B, Wysoker A, et al. The Sequence Alignment/Map format and SAMtools. *Bioinformatics*. 2009;25(16):2078-2079. doi:10.1093/bioinformatics/btp352.

Supplementary Table 1a (ST1a)

Dataset Name	Link to the dataset	File name(s) used
E-MTAB-1030** (SCZ patients, (12))	https://www.ebi.ac.uk/arrayexpress/experiments/E-MTAB-1030/files/bam/?ref=E-MTAB-1030	E-MTAB-1030.BAM.ERR103421.bam E-MTAB-1030.BAM.ERR103422.bam E-MTAB-1030.BAM.ERR103423.bam E-MTAB-1030.BAM.ERR103424.bam E-MTAB-1030.BAM.ERR103425.bam E-MTAB-1030.BAM.ERR103426.bam E-MTAB-1030.BAM.ERR103427.bam E-MTAB-1030.BAM.ERR103428.bam E-MTAB-1030.BAM.ERR103429.bam E-MTAB-1030.BAM.ERR103430.bam E-MTAB-1030.BAM.ERR103431.bam E-MTAB-1030.BAM.ERR103432.bam E-MTAB-1030.BAM.ERR103433.bam E-MTAB-1030.BAM.ERR103434.bam E-MTAB-1030.BAM.ERR103435.bam E-MTAB-1030.BAM.ERR103436.bam E-MTAB-1030.BAM.ERR103437.bam E-MTAB-1030.BAM.ERR103438.bam

**aligned against hg19 (iGenome by Illumina): http://support.illumina.com/sequencing/sequencing_software/igenome.html

Supplementary Table 1b (ST1b). Quality control of the RNA-seq reads (E-MTAB-1030) as determined by the FastQC software. Two out of 18 analysed samples are double negative (in red) on “per base sequence quality” and displaying a non-detectable expression level of a coding *NTNG1a* isoform (typically present at a high level of the expression) and non-coding transcript *NTNG1int(9-10)*. These two samples (C02 and S05, one healthy control and one SCZ) were excluded from the comparison analysis. Related to **Figure 1B** in the main text.

	C01	C02	C04	C05	C06	C10	C23	C25	C26	S01	S02	S04	S05	S06	S10	S23	S25	S26
Basic Statistics	PASS																	
Per base sequence quality	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	FAIL	PASS	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS
Per sequence quality scores	PASS																	
Per base sequence content	FAIL																	
Per base GC content	FAIL	WARN	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	WARN	FAIL	FAIL							
Per sequence GC content	WARN	PASS	PASS	WARN	PASS	WARN	PASS	WARN	PASS	PASS	WARN							
Per base N content	PASS																	
Sequence Length Distribution	PASS																	
Sequence Duplication Levels	FAIL	WARN	FAIL	FAIL	WARN	FAIL	FAIL	FAIL	WARN	WARN	FAIL	WARN	FAIL	WARN	FAIL	PASS	FAIL	FAIL
Overrepresented sequences	PASS																	
Kmer Content	FAIL	WARN	FAIL	WARN	WARN	WARN	WARN	FAIL	FAIL	WARN	WARN	WARN	WARN	FAIL	FAIL	WARN	FAIL	WARN

Expression zero

NTNG1a yes
NTNG1int(9-10) yes

yes
yes

Supplementary Table 1c (ST1c). SNPs calling from the RNA-seq reads (E-MTAB-1030) using SAMtools. All samples except one (S23) contain rs2149171 among the group of 16 human subjects tested. Related to **Figure 1B** in the main text.

per group SNP calling											
Group	dbSNP_ref_ID	#CHROM	POS	ID	REF	ALT	QUAL	FILTER	INFO	FORMAT	
SCZ	rs2218404	chr1	107952605	.	T	G	46.8	.	DP=2;VDB=7.520000e002;AF1=1;AC1=2;DP4=0,0,1,1;MQ=50;FQ=033	GT:PL:GQ	1/1:78,6,0:10
SCZ	rs7851893	chr9	135040036	.	G	T	36	.	DP=3;VDB=4.480000e002;RPB=8.745357e001;AF1=0.5002;AC1=1;DP4=1,0,1,1;MQ=50;FQ=5.46;PV4=1,0.33,1,0.33	GT:PL:GQ	0/1:66,0,31:34
SCZ	rs3824574	chr9	135073877	.	C	T	225	.	DP=83;VDB=2.687766e001;RPB=3.278316e001;AF1=0.5;AC1=1;DP4=29,23,19,9;MQ=50;FQ=225;PV4=0.34,0.11,1,0.37	GT:PL:GQ	0/1:255,0,255:99
SCZ	rs2149171	chr9	135102254	.	C	T	225	.	DP=95;VDB=2.950173e001;RPB=6.821234e001;AF1=0.5;AC1=1;DP4=21,17,27,25;MQ=50;FQ=225;PV4=0.83,1,1,1	GT:PL:GQ	0/1:255,0,255:99
CTL	rs2218404	chr1	107952605	.	T	G	27.8	.	DP=2;VDB=6.240000e002;AF1=1;AC1=2;DP4=0,0,2,0;MQ=50;FQ=033	GT:PL:GQ	1/1:59,6,0:10
CTL	rs3824574	chr9	135073877	.	C	T	225	.	DP=90;VDB=2.599002e001;RPB=9.523965e002;AF1=0.5;AC1=1;DP4=32,21,21,11;MQ=50;FQ=225;PV4=0.65,0.3,1,0.18	GT:PL:GQ	0/1:255,0,255:99
CTL	rs2149171	chr9	135102254	.	C	T	225	.	DP=93;VDB=1.238512e001;RPB=1.426915e+00;AF1=0.5;AC1=1;DP4=14,14,32,29;MQ=50;FQ=225;PV4=1,1,1,1	GT:PL:GQ	0/1:255,0,255:99

per sample SNP calling											
Sample	dbSNP_ref_ID	#CHROM	POS	ID	REF	ALT	QUAL	FILTER	INFO	FORMAT	
C01	rs3824574	chr9	135073877	.	C	T	179	.	DP=29;VDB=1.513890e001;RPB=0.6429306e001;AF1=0.5;AC1=1;DP4=9,5,9,3;MQ=50;FQ=182;PV4=0.68,0.17,1,0.18	GT:PL:GQ	0/1:209,0,255:99
C01	rs2149171	chr9	135102254	.	C	T	225	.	DP=38;VDB=1.350007e001;RPB=1.162004e+00;AF1=0.5;AC1=1;DP4=4,12,9,11;MQ=50;FQ=211;PV4=0.3,1,1,0.072	GT:PL:GQ	0/1:255,0,238:99
C04	rs2149171	chr9	135102254	.	C	T	193	.	DP=30;VDB=1.122397e001;RPB=0.3949202e001;AF1=0.5;AC1=1;DP4=9,7,10,4;MQ=50;FQ=196;PV4=0.47,0.27,1,0.33	GT:PL:GQ	0/1:223,0,255:99
C05	rs3824574	chr9	135073877	.	C	T	222	.	DP=21;VDB=1.215496e001;AF1=1;AC1=2;DP4=0,0,14,5;MQ=50;FQ=084	GT:PL:GQ	1/1:255,57,0:99
C05	rs2149171	chr9	135102254	.	C	T	147	.	DP=22;VDB=8.058553e002;RPB=1.991569e+00;AF1=0.5;AC1=1;DP4=5,8,3,5;MQ=50;FQ=150;PV4=1,1,1,1	GT:PL:GQ	0/1:177,0,248:99
C06	rs2149171	chr9	135102254	.	C	T	18.1	.	DP=5;VDB=3.200000e002;RPB=0.111223e+00;AF1=0.5;AC1=1;DP4=1,1,1,1;MQ=50;FQ=19.9;PV4=1,0.077,1,1	GT:PL:GQ	0/1:48,0,53:50
C10	rs2149171	chr9	135102254	.	C	T	222	.	DP=18;VDB=1.071739e001;AF1=1;AC1=2;DP4=0,0,7,9;MQ=50;FQ=075	GT:PL:GQ	1/1:255,48,0:93
C23	rs3824574	chr9	135073877	.	C	T	225	.	DP=31;VDB=3.823388e002;RPB=0.9341987e001;AF1=0.5;AC1=1;DP4=7,4,8,7;MQ=50;FQ=199;PV4=0.7,0.055,1,1	GT:PL:GQ	0/1:255,0,226:99
C23	rs2149171	chr9	135102254	.	C	T	225	.	DP=37;VDB=1.748441e001;RPB=1.151082e+00;AF1=0.5;AC1=1;DP4=8,5,8,11;MQ=50;FQ=210;PV4=0.47,0.27,1,1	GT:PL:GQ	0/1:255,0,237:99
C25	rs4915045	chr1	108023589	.	A	C	191	.	DP=17;VDB=1.280591e001;RPB=1.463850e001;AF1=0.5;AC1=1;DP4=5,2,6,4;MQ=50;FQ=137;PV4=1,0.18,1,1	GT:PL:GQ	0/1:221,0,164:99
C25	rs2149171	chr9	135102254	.	C	T	225	.	DP=30;VDB=1.577762e001;RPB=0.1079507e+00;AF1=0.5;AC1=1;DP4=7,3,6,11;MQ=50;FQ=143;PV4=0.12,1,1,1	GT:PL:GQ	0/1:255,0,170:99
C26	rs3824574	chr9	135073877	.	C	T	175	.	DP=31;VDB=1.109656e001;RPB=3.659625e001;AF1=0.5;AC1=1;DP4=10,5,7,5;MQ=50;FQ=178;PV4=0.71,0.15,1,1	GT:PL:GQ	0/1:205,0,252:99
C26	rs2149171	chr9	135102254	.	C	T	222	.	DP=30;VDB=5.630463e002;AF1=1;AC1=2;DP4=0,0,15,12;MQ=50;FQ=0108	GT:PL:GQ	1/1:255,81,0:99
S01	rs2149171	chr9	135102254	.	C	T	156	.	DP=11;VDB=4.899777e002;AF1=1;AC1=2;DP4=0,0,8,2;MQ=50;FQ=057	GT:PL:GQ	1/1:189,30,0:57
S02	rs3824574	chr9	135073877	.	C	T	152	.	DP=37;VDB=1.024512e001;RPB=1.198958e+00;AF1=0.5;AC1=1;DP4=16,7,7,5;MQ=50;FQ=155;PV4=0.71,0.00015,1,0.37	GT:PL:GQ	0/1:182,0,255:99
S02	rs2149171	chr9	135102254	.	C	T	225	.	DP=34;VDB=1.847060e001;RPB=4.087119e001;AF1=0.5;AC1=1;DP4=6,6,9,11;MQ=50;FQ=187;PV4=1,1,1,1	GT:PL:GQ	0/1:255,0,214:99
S05	rs2149171	chr9	135102254	.	C	T	20	.	DP=15;VDB=7.269818e002;RPB=2.245397e+00;AF1=0.5;AC1=1;DP4=4,3,4,0;MQ=50;FQ=23;PV4=0.24,0.045,1,0.1	GT:PL:GQ	0/1:50,0,139:53
S06	rs2149171	chr9	135102254	.	C	T	59	.	DP=10;VDB=4.566715e002;RPB=0.4748531e001;AF1=0.5;AC1=1;DP4=3,2,3,1;MQ=50;FQ=61.9;PV4=1,1,1,0.13	GT:PL:GQ	0/1:89,0,104:92
S10	rs2149171	chr9	135102254	.	C	T	204	.	DP=23;VDB=1.647063e001;RPB=0.3464674e001;AF1=0.5;AC1=1;DP4=5,4,3,11;MQ=50;FQ=151;PV4=0.18,1,1,1	GT:PL:GQ	0/1:234,0,178:99
S23	rs3824574	chr9	135073877	.	C	T	195	.	DP=48;VDB=1.676466e001;RPB=0.6685032e001;AF1=0.5;AC1=1;DP4=16,13,9,6;MQ=50;FQ=198;PV4=1,0.29,1,1	GT:PL:GQ	0/1:225,0,255:99
S25	rs4915045	chr1	108023589	.	A	C	222	.	DP=12;VDB=1.354519e001;AF1=1;AC1=2;DP4=0,0,5,6;MQ=50;FQ=060	GT:PL:GQ	1/1:255,33,0:63
S25	rs3824574	chr9	135073877	.	C	T	164	.	DP=30;VDB=1.565452e001;RPB=5.440727e001;AF1=0.5;AC1=1;DP4=9,8,10,3;MQ=50;FQ=167;PV4=0.26,0.2,1,1	GT:PL:GQ	0/1:194,0,255:99
S25	rs2149171	chr9	135102254	.	C	T	225	.	DP=26;VDB=1.440805e001;RPB=0.3175537e001;AF1=0.5;AC1=1;DP4=4,3,10,7;MQ=50;FQ=115;PV4=1,0.31,1,1	GT:PL:GQ	0/1:255,0,142:99
S26	rs2149171	chr9	135102254	.	C	T	222	.	DP=30;VDB=1.760676e001;AF1=1;AC1=2;DP4=0,0,12,15;MQ=50;FQ=0108	GT:PL:GQ	1/1:255,81,0:99

Supplementary Table 2 (ST2). Human brain samples used for the *NTNG* paralogs expression dynamics comparison (from www.brainspan.org). Related to **Figure 2** in the main text.

donor_id	donor_name	donor_age	donor_color	structure_id	structure_name	structure_abreviation	structure_color	top_level_structure_id	top_level_structure_name	top_level_structure_abbreviation	top_level_structure_color
13058	H376.IIA.51	8 pew	0000FF	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10291	primary motor-sensory cortex (samples)	M1C-S1C	EEAF80	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10208	parietal neocortex	PCx	F0DABE	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10268	occipital neocortex	Ocx	E7ACA1	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
13058	H376.IIA.51	8 pew	0000FF	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
13058	H376.IIA.51	8 pew	0000FF	10551	lateral ganglionic eminence	LGE	937B7C	10542	ventricular zone	VZ	81696B
13058	H376.IIA.51	8 pew	0000FF	10550	medial ganglionic eminence	MGE	8C7373	10542	ventricular zone	VZ	81696B
13058	H376.IIA.51	8 pew	0000FF	10552	caudal ganglionic eminence	CGE	81696B	10542	ventricular zone	VZ	81696B
13058	H376.IIA.51	8 pew	0000FF	10391	dorsal thalamus	DTH	CC9FC9	10390	thalamus	THM	E4CCE3
13058	H376.IIA.51	8 pew	0000FF	10665	upper (rostral) rhombic lip	URL	A78D8D	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10291	primary motor-sensory cortex (samples)	M1C-S1C	EEAF80	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10208	parietal neocortex	PCx	F0DABE	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10235	temporal neocortex	TCx	EBBFD0	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10268	occipital neocortex	Ocx	E7ACA1	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12833	H376.IIA.50	9 pew	0000EB	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10551	lateral ganglionic eminence	LGE	937B7C	10542	ventricular zone	VZ	81696B
12833	H376.IIA.50	9 pew	0000EB	10550	medial ganglionic eminence	MGE	8C7373	10542	ventricular zone	VZ	81696B
12833	H376.IIA.50	9 pew	0000EB	10552	caudal ganglionic eminence	CGE	81696B	10542	ventricular zone	VZ	81696B
12833	H376.IIA.50	9 pew	0000EB	10391	dorsal thalamus	DTH	CC9FC9	10390	thalamus	THM	E4CCE3
12833	H376.IIA.50	9 pew	0000EB	10665	upper (rostral) rhombic lip	URL	A78D8D	10153	neural plate	NP	D7D8D8
12835	H376.IIA.50	9 pew	0000EB	10208	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10235	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10268	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10294	primary motor-sensory cortex (samples)	M1C-S1C	EEAF80	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10361	parietal neocortex	PCx	F0DABE	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10550	temporal neocortex	TCx	EBBFD0	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10552	occipital neocortex	Ocx	E7ACA1	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10391	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12833	H376.IIA.50	9 pew	0000EB	10665	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12833	H376.IIA.50	9 pew	0000EB	10551	lateral ganglionic eminence	LGE	937B7C	10542	ventricular zone	VZ	81696B
12833	H376.IIA.50	9 pew	0000EB	10550	medial ganglionic eminence	MGE	8C7373	10542	ventricular zone	VZ	81696B
12833	H376.IIA.50	9 pew	0000EB	10552	caudal ganglionic eminence	CGE	81696B	10542	ventricular zone	VZ	81696B
12833	H376.IIA.50	9 pew	0000EB	10391	dorsal thalamus	DTH	CC9FC9	10390	thalamus	THM	E4CCE3
12833	H376.IIA.50	9 pew	0000EB	10665	upper (rostral) rhombic lip	URL	A78D8D	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10209	primary motor cortex (area M1, area 4)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10236	primary somatosensory cortex (area S1, areas 3,1,2)	IPC	D38E32	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10243	posteroventral (inferior) parietal cortex	A1C	D670A0	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10268	primary auditory cortex (core)	STC	D670A0	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10294	posterior (caudal) superior temporal cortex (area 22c)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10361	inferolateral temporal cortex (area TEv, area 20)	V1C	C13331	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10551	primary visual cortex (striate cortex, area V1/17)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12835	H376.IIB.50	12 pew	0040FF	10361	hippocampus (hippocampal formation)	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12835	H376.IIB.50	12 pew	0040FF	10550	amygdaloid complex	STR	C1CEA7	10332	nuclei (basal ganglia)	BN	E2EACA
12835	H376.IIB.50	12 pew	0040FF	10552	striatum	DTH	CC9FC9	10390	thalamus	THM	E4CCE3
12960	H376.IIB.51	12 pew	003BEB	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10225	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10236	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10243	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10268	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10294	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10361	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10551	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10550	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10552	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12960	H376.IIB.51	12 pew	003BEB	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12960	H376.IIB.51	12 pew	003BEB	10553	striatum	STR	C1CEA7	10332	nuclei (basal ganglia)	BN	E2EACA
12960	H376.IIB.51	12 pew	003BEB	10656	dorsal thalamus	DTH	CC9FC9	10390	thalamus	THM	E4CCE3
13060	H376.IIB.52	12 pew	0036D6	10173	cerebellum	CB	9EBAE1	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10185	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10225	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10236	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10278	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10361	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10551	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10243	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10268	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10294	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
13060	H376.IIB.52	12 pew	0036D6	10361	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
13060	H376.IIB.52	12 pew	0036D6	10553	amygdaloid complex	AMY	C9E2B1	10153	nuclei (basal ganglia)	BN	E2EACA
13060	H376.IIB.52	12 pew	0036D6	10657	striatum	DTH	CC9FC9	10390	thalamus	THM	E4CCE3
12820	H376.IIIA.50	13 pew	0080FF	10173	cerebellar cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12820	H376.IIIA.50	13 pew	0080FF	10185	dorsolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12820	H376.IIIA.50	13 pew	0080FF	10225	ventrolateral prefrontal cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12820	H376.IIIA.50	13 pew	0080FF	10278	anterior (rostral) cingulate (medial prefrontal) cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
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Supplementary Table 2 (ST2, cont.). Human brain samples used for the *NTNG* paralogs expression dynamics comparison (from www.brainspan.org). Related to **Figure 2** in the main text.

12820	H376.IIIA.50	13	pew	0080FF	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12820	H376.IIIA.50	13	pew	0080FF	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12834	H376.IIIA.51	13	pew	0076EB	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10163	primary motor cortex (area M1, area 4)	MIC	EDCF37	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12834	H376.IIIA.51	13	pew	0076EB	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12834	H376.IIIA.51	13	pew	0076EB	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12834	H376.IIIA.51	13	pew	0076EB	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12834	H376.IIIA.51	13	pew	0076EB	10656	cerebellum	CB	9EBAE1	10153	neural plate	NP	D7D8D8
12287	H376.IIIA.52	13	pew	006CD6	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12288	H376.IIIA.52	13	pew	006CD6	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12888	H376.IIIA.52	13	pew	006CD6	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12888	H376.IIIA.52	13	pew	006CD6	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12888	H376.IIIA.52	13	pew	006CD6	10656	cerebellum	CB	9EBAE1	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12287	H376.IIIB.50	16	pew	00BFFF	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12287	H376.IIIB.50	16	pew	00BFFF	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12837	H376.IIIB.51	16	pew	00B0EB	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10225	primary motor cortex (area M1, area 4)	MIC	EDCF37	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10236	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10252	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10269	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10294	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10361	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12837	H376.IIIB.51	16	pew	00B0EB	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12837	H376.IIIB.51	16	pew	00B0EB	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12837	H376.IIIB.51	16	pew	00B0EB	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10225	primary motor cortex (area M1, area 4)	MIC-S1C	EEAF80	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10236	primary somatosensory cortex (samples)	IPC	D38E32	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10236	posteroventral (inferior) parietal cortex	A1C	D670A0	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10243	primary auditory cortex (core)	STC	D670A0	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10243	posterior (caudal) superior temporal cortex (area 22c)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10252	inferolateral temporal cortex (area TEv, area 20)	V1C	C13331	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10269	primary visual cortex (striate cortex, area V1/17)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12879	H376.IIIB.52	16	pew	00A0D6	10294	hippocampus (hippocampal formation)	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10361	amygdaloid complex	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12879	H376.IIIB.52	16	pew	00A0D6	10333	striatum	CB	89ADD8	10153	neural plate	NP	D7D8D8
12879	H376.IIIB.52	16	pew	00A0D6	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12880	H376.IIIB.53	17	pew	0091C2	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10225	primary motor-sensory cortex (samples)	MIC-S1C	EEAF80	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10236	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10243	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12880	H376.IIIB.53	17	pew	0091C2	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12880	H376.IIIB.53	17	pew	0091C2	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12880	H376.IIIB.53	17	pew	0091C2	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12880	H376.IIIB.53	17	pew	0091C2	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12885	H376.IV.53	19	pew	00FFFF	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12885	H376.IV.53	19	pew	00FFFF	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12885	H376.IV.53	19	pew	00FFFF	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12885	H376.IV.53	19	pew	00FFFF								

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Supplementary Table 2 (ST2, cont.) Human brain samples used for the *NTNG* paralogs expression dynamics comparison (from www.brainspan.org). Related to **Figure 2** in the main text.

12885	H376.IV.53	19 pcw	00FFFF	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12885	H376.IV.53	19 pcw	00FFFF	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12885	H376.IV.53	19 pcw	00FFFF	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12885	H376.IV.53	19 pcw	00FFFF	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12885	H376.IV.53	19 pcw	00FFFF	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12885	H376.IV.53	19 pcw	00FFFF	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12365	H376.IV.51	21 pcw	00EBEB	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12365	H376.IV.51	21 pcw	00EBEB	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12886	H376.IV.54	21 pcw	00D6D6	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12886	H376.IV.54	21 pcw	00D6D6	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12886	H376.IV.54	21 pcw	00D6D6	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12288	H376.IV.50	24 pcw	00C2C2	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12288	H376.IV.50	24 pcw	00C2C2	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12288	H376.IV.50	24 pcw	00C2C2	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12288	H376.IV.50	24 pcw	00C2C2	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12948	H376.V.51	25 pcw	40FFBF	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12949	H376.V.52	26 pcw	3BEBB0	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12949	H376.V.52	26 pcw	3BEBB0	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12949	H376.V.52	26 pcw	3BEBB0	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12295	H376.V.50	35 pcw	36D6A0	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12295	H376.V.50	35 pcw	36D6A0	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
3E+08	H376.V.53	37 pcw	31C291	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
3E+08	H376.V.53	37 pcw	31C291	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
3E+08	H376.V.53	37 pcw	31C291	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
3E+08	H376.V.53	37 pcw	31C291	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12296	H376.VI.50	4 mos	80FF80	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12296	H376.VI.50	4 mos	80FF80	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12296	H376.VI.50	4 mos	80FF80	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12296	H376.VI.50	4 mos	80FF80	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12296	H376.VI.50	4 mos	80FF80	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12296	H376.VI.50	4 mos	80FF80	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12296	H376.VI.50	4 mos	80FF80	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12296	H376.VI.50	4 mos	80FF80	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12296	H376.VI.50	4 mos	80FF80	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12889	H376.VI.51	4 mos	76EB76	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12889	H376.VI.51	4 mos	76EB76	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8

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Supplementary Table 2 (ST2, cont.). Human brain samples used for the *NTNG* paralogs expression dynamics comparison (from www.brainspan.org). Related to **Figure 2** in the main text.

12890	H376.VI.52	4 mos	6CD66C	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12890	H376.VI.52	4 mos	6CD66C	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12890	H376.VI.52	4 mos	6CD66C	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12977	H376.VII.51	10 mos	B0EB3B	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12977	H376.VII.51	10 mos	B0EB3B	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10225	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10278	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10194	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10163	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10209	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10225	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10236	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10294	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10361	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12830	H376.VIII.51	1 yrs	FFFFF00	10331	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12830	H376.VIII.51	1 yrs	FFFFF00	10398	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12830	H376.VIII.51	1 yrs	FFFFF00	10657	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12830	H376.VIII.51	1 yrs	FFFFF00	10658	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12979	H376.VIII.53	2 yrs	EBEB00	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12979	H376.VIII.53	2 yrs	EBEB00	10361	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12979	H376.VIII.53	2 yrs	EBEB00	10398	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10173	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10185	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12830	H376.VIII.52	3 yrs	EBEB00	10398	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12830	H376.VIII.52	3 yrs	EBEB00	10657	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12830	H376.VIII.52	3 yrs	EBEB00	10658	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10209	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10225	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10236	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10243	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10252	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10269	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10294	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10361	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12980	H376.VIII.54	3 yrs	C2C200	10398	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12980	H376.VIII.54	3 yrs	C2C200	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10225	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10361	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10398	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10657	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10658	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10700	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10733	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10788	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10825	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10924	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12298	H376.VIII.50	4 yrs	ADAD00	10961	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12298	H376.VIII.50	4 yrs	ADAD00	10988	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12298	H376.VIII.50	4 yrs	ADAD00	10998	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12298	H376.VIII.50	4 yrs	ADAD00	11065	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12981	H376.VIX.52	8 yrs	EBBB00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10173	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10185	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10228	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10194	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10236	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10243	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10252	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10269	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10294	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10361	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12841	H376.IX.51	8 yrs	FFBF00	10398	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12841	H376.IX.51	8 yrs	FFBF00	10657	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12841	H376.IX.51	8 yrs	FFBF00	10658	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12841	H376.IX.51	8 yrs	FFBF00	10665	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12981	H376.VIX.52	8 yrs	EBBB00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8

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Supplementary Table 2 (ST2, cont.). Human brain samples used for the *NTNG* paralogs expression dynamics comparison (from www.brainspan.org). Related to **Figure 2** in the main text.

12981	H376.IX.52	8 yrs	EBB000	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12981	H376.IX.52	8 yrs	EBB000	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12981	H376.IX.52	8 yrs	EBB000	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10163	primary motor cortex (area M1, area 4)	MIC	EDCF37	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10252	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12289	H376.IX.50	11 yrs	D6A000	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12289	H376.IX.50	11 yrs	D6A000	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10163	primary motor cortex (area M1, area 4)	MIC	EDCF37	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12831	H376.X.51	13 yrs	FF8000	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12831	H376.X.51	13 yrs	FF8000	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan	BN	E2EACA
12831	H376.X.51	13 yrs	FF8000	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12831	H376.X.51	13 yrs	FF8000	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12299	H376.X.50	15 yrs	EB7600	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12299	H376.X.50	15 yrs	EB7600	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12299	H376.X.50	15 yrs	EB7600	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12299	H376.X.50	15 yrs	EB7600	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12299	H376.X.50	15 yrs	EB7600	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10163	primary motor cortex (area M1, area 4)	MIC	EDCF37	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12984	H376.X.53	18 yrs	D66C00	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12984	H376.X.53	18 yrs	D66C00	10657	striatum	STR	C1CEA7	10332	nuclei (basal gan	BN	E2EACA
12832	H376.X.52	19 yrs	C26100	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10163	primary motor cortex (area M1, area 4)	MIC	EDCF37	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12832	H376.X.52	19 yrs	C26100	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12832	H376.X.52	19 yrs	C26100	10657	striatum	STR	C1CEA7	10332	nuclei (basal gan	BN	E2EACA
12832	H376.X.52	19 yrs	C26100	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12832	H376.X.52	19 yrs	C26100	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10163	primary motor cortex (area M1, area 4)	MIC	EDCF37	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10269	primary visual cortex (striate cortex, area V1/17)	V1C	C13331	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
13057	H376.XI.60	21 yrs	FF4000	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
13057	H376.XI.60	21 yrs	FF4000	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan	BN	E2EACA
13057	H376.XI.60	21 yrs	FF4000	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
13057	H376.XI.60	21 yrs	FF4000	10657	cerebellar cortex	CBC	89ADD8	10153	neural plate	NP	D7D8D8

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Supplementary Table 2 (ST2, cont.). Human brain samples used for the *NTNG* paralogs expression dynamics comparison (from www.brainspan.org). Related to **Figure 2** in the main text.

12300	H376.XI.50	23 yrs	EB3B00	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12300	H376.XI.50	23 yrs	EB3B00	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12300	H376.XI.50	23 yrs	EB3B00	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12300	H376.XI.50	23 yrs	EB3B00	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12300	H376.XI.50	23 yrs	EB3B00	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10269	primary visual cortex (striate cortex, area V1/17)	VIC	C13331	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12290	H376.XI.52	30 yrs	C23100	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12290	H376.XI.52	30 yrs	C23100	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12290	H376.XI.52	30 yrs	C23100	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12290	H376.XI.52	30 yrs	C23100	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10269	primary visual cortex (striate cortex, area V1/17)	VIC	C13331	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12302	H376.XI.53	36 yrs	AD2C00	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12302	H376.XI.53	36 yrs	AD2C00	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12302	H376.XI.53	36 yrs	AD2C00	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12302	H376.XI.53	36 yrs	AD2C00	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10278	anterior (rostral) cingulate (medial prefrontal) cortex	MFC	E26880	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10269	primary visual cortex (striate cortex, area V1/17)	VIC	C13331	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12303	H376.XI.54	37 yrs	992600	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12303	H376.XI.54	37 yrs	992600	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12303	H376.XI.54	37 yrs	992600	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12303	H376.XI.54	37 yrs	992600	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10173	dorsolateral prefrontal cortex	DFC	D4B235	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10185	ventrolateral prefrontal cortex	VFC	C2A335	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10194	orbital frontal cortex	OFC	E2D4A7	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10163	primary motor cortex (area M1, area 4)	M1C	EDCF37	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10209	primary somatosensory cortex (area S1, areas 3,1,2)	S1C	EC813B	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10225	posteroventral (inferior) parietal cortex	IPC	D38E32	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10236	primary auditory cortex (core)	A1C	D670A0	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10243	posterior (caudal) superior temporal cortex (area 22c)	STC	D670A0	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10252	inferolateral temporal cortex (area TEv, area 20)	ITC	D55C92	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10269	primary visual cortex (striate cortex, area V1/17)	VIC	C13331	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10294	hippocampus (hippocampal formation)	HIP	BFB5D5	10292	allocortex	ACx	D1CEE2
12304	H376.XI.56	40 yrs	701C00	10361	amygdaloid complex	AMY	C9E2B1	10153	neural plate	NP	D7D8D8
12304	H376.XI.56	40 yrs	701C00	10333	striatum	STR	C1CEA7	10332	nuclei (basal gan)	BN	E2EACA
12304	H376.XI.56	40 yrs	701C00	10398	mediodorsal nucleus of thalamus	MD	B067A9	10390	thalamus	THM	E4CCE3
12304	H376.XI.56	40 yrs	701C00	10657	cerebellar cortex	CBC	89ADDB	10153	neural plate	NP	D7D8D8

NetPhos 2.0 Server - prediction results

Technical University of Denmark

587 Sequence

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KNFRTRSWRAGSYLPLPHGSPNACATAGSGFKWTRPSTAAPLSSRWSQVASRAEAVGTPAAAPAKGYKLFQLPKSPQ	400
VMPIEEFQDCECYGHNSNRCSYIDFLNVVTCSCKHNTRGQHCQHCRIGYRNGSAELDDENVICIECNCNQIGSVHDRCNE	480
TGFCECREGAAGPKCDDCLPTHYWRQGCYPNVCDQQLLCQNGGTCLQNQRCACPRTGVRCEQPRCDPADDGGLCDC	560
RAPGAAPRPATLLGCLLLGLAARLGR	640
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..S.....S.....S.....S.....T.....S.....S.....	160
.....S.....SS.S.....Y.....S.....Y.....S.....	240
.....S.....Y.....Y.....S.....T.....S.....T.....	320
....S...S.....S.....S.....S.....T.....S.....	400
.....Y.....SY.....Y.....S.....	480
.....Y.....T.....	560
.....	640

Phosphorylation sites predicted:

Ser: 20 Thr: 5 Tyr: 11

Serine predictions

Name	Pos	Context	Score	Pred
Sequence	16	LPLASGDYD	0.005	.
Sequence	24	DICKSWTT	0.480	.
Sequence	57	KVEPSGITC	0.015	.
Sequence	70	ERFCSHENP	0.970	*S*
Sequence	78	PYLCSNECD	0.003	.
Sequence	84	ECDASNPDL	0.526	*S*
Sequence	109	TYWQSITWS	0.011	.
Sequence	113	SITWSRYP	0.080	.
Sequence	117	SRYPSPLEA	0.980	*S*
Sequence	126	NITLSWNKT	0.645	*S*
Sequence	154	VLEKSLDNG	0.896	*S*
Sequence	178	AFGMSARRA	0.947	*S*
Sequence	186	ARDMSSSA	0.992	*S*
Sequence	187	RDMSSSAH	0.884	*S*
Sequence	188	DMSSSSAHR	0.066	.
Sequence	189	MSSSSAHRV	0.695	*S*
Sequence	200	TEEYSRWAG	0.016	.
Sequence	205	RWAGSKKEK	0.993	*S*
Sequence	239	TRLESAKGL	0.994	*S*
Sequence	279	FYAIISNIEV	0.006	.
Sequence	297	ANLCMREG	0.195	.
Sequence	302	MREGSLQCE	0.651	*S*
Sequence	327	FRTRSWRAG	0.984	*S*
Sequence	332	WRAGSYLPL	0.694	*S*
Sequence	340	LPHGSPNAC	0.012	.

Sequence	349	ATAGSFGKWK	0.009	.
Sequence	357	WTRPSTAAP	0.755	*S*
Sequence	363	AAPLSSRWS	0.961	*S*
Sequence	364	APLSSRWSQ	0.051	.
Sequence	367	SSRWSQVAS	0.983	*S*
Sequence	371	SQVASRAEA	0.286	.
Sequence	398	LKPSPQVM	0.748	*S*
Sequence	416	CYGHSNRCS	0.080	.
Sequence	420	SNRCSYIDF	0.967	*S*
Sequence	432	VTCVSCKHN	0.097	.
Sequence	454	YRNNSAELD	0.978	*S*
Sequence	473	NQIGSVHDR	0.459	.

Threonine predictions

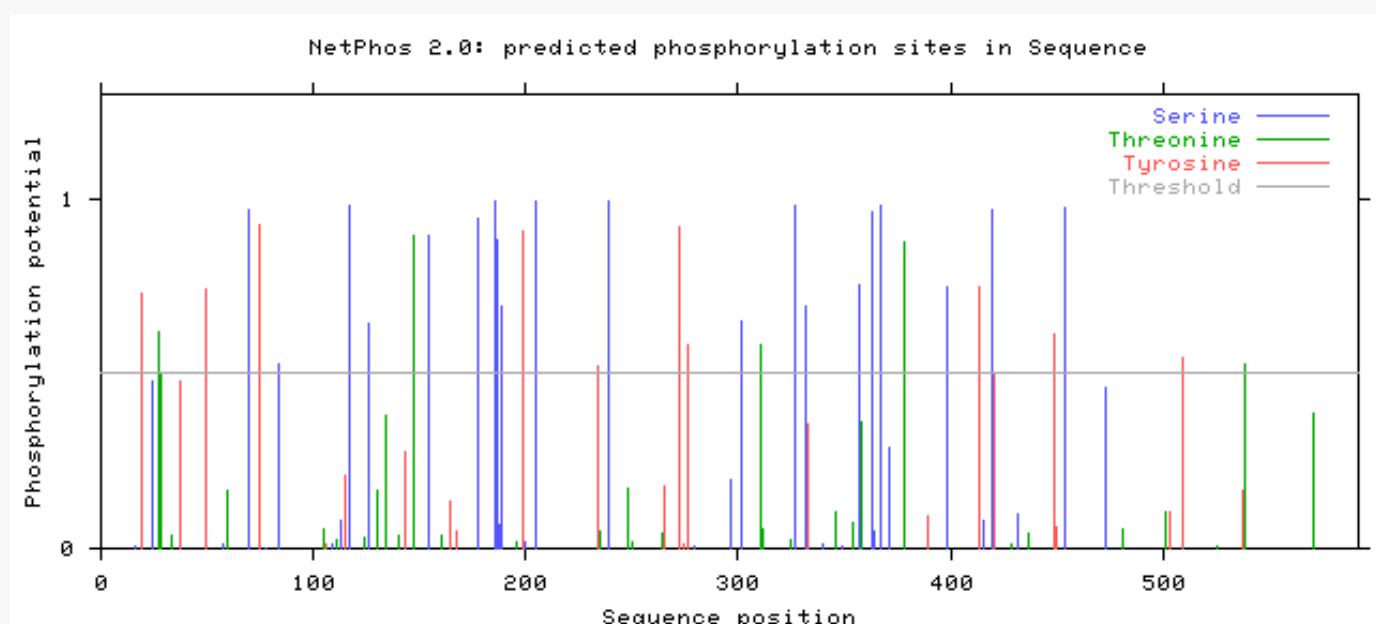
Name	Pos	Context	Score	Pred
		v		
Sequence	27	KSWVTTDEG	0.620	*T*
Sequence	28	SWVTTEGP	0.497	.
Sequence	33	DEGPTWEFY	0.034	.
Sequence	60	PSGITCGDP	0.166	.
Sequence	105	EGLATYWQS	0.053	.
Sequence	111	WQSITWSRY	0.026	.
Sequence	124	EANITLSWN	0.028	.
Sequence	130	SWNKTVELT	0.163	.
Sequence	134	TVELTDDVV	0.378	.
Sequence	140	DVVMTFEYG	0.035	.
Sequence	147	YGRPTVMVL	0.895	*T*
Sequence	160	DNGRTWQPY	0.035	.
Sequence	196	RVLCTEEYS	0.018	.
Sequence	235	DNLYTRLES	0.047	.
Sequence	248	KEFFTTLTDL	0.169	.
Sequence	250	FFTLTDLRM	0.017	.
Sequence	264	ALGGTYVQR	0.043	.
Sequence	311	CEHNTTGPD	0.582	*T*
Sequence	312	EHNTTGPD	0.057	.
Sequence	325	KNFRTRRSWR	0.025	.
Sequence	346	NACATAGSF	0.102	.
Sequence	354	FGKWTRPST	0.073	.
Sequence	358	TRPSTAAPL	0.363	.
Sequence	378	EAVGTPAAA	0.875	*T*
Sequence	429	LNVVTCVSC	0.014	.
Sequence	437	CKHNTRGQH	0.044	.
Sequence	481	RCNETGFCE	0.057	.
Sequence	501	DCLPTHYWR	0.107	.
Sequence	525	QNNGTCLQN	0.009	.
Sequence	539	PRGYTGVR	0.525	*T*
Sequence	571	PRPATLLGC	0.388	.

Tyrosine predictions

Name	Pos	Context	Score	Pred
		v		
Sequence	19	ASG DYDICK	0.728	*Y*
Sequence	37	TWE FYACQP	0.480	.
Sequence	49	RLK DYVKVK	0.743	*Y*
Sequence	75	HEN PYLC SN	0.925	*Y*
Sequence	106	GLAT YWQSI	0.014	.
Sequence	115	TWS RYPSPL	0.208	.

Prosselkov P (2016) Cognitive domains function complementation by NTNG gene paralogs

Sequence	143	MTFEYGRPT	0.277	.
Sequence	164	TWQPYQFYA	0.134	.
Sequence	167	PYQFYAEDC	0.050	.
Sequence	199	CTEEYSRWA	0.905	*Y*
Sequence	234	MDNLYTRLE	0.522	*Y*
Sequence	265	LGGTYVQRE	0.178	.
Sequence	272	RENLYKYFY	0.921	*Y*
Sequence	274	NLYKYFYAI	0.013	.
Sequence	276	YKYFYAISN	0.583	*Y*
Sequence	333	RAGSYLPLP	0.356	.
Sequence	389	PAKGYKLFQ	0.093	.
Sequence	413	DCECYGHSN	0.749	*Y*
Sequence	421	NRCSYIDFL	0.505	*Y*
Sequence	449	CRLGYYRNG	0.613	*Y*
Sequence	450	RLGYYRNGS	0.062	.
Sequence	503	LPTHYWRQG	0.104	.
Sequence	509	RQGCYPNVC	0.545	*Y*
Sequence	538	CPRGYTGVR	0.163	.



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NetOGlyc 4.0 Server - prediction results

Technical University of Denmark

```

##gff-version 2
##source-version NetOGlyc 4.0.0.13
##date 15-7-7
##Type Protein

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SEQUENCE	netOGlyc-4.0.0.13	CARBOHYD	501	501	0.34238	.	.
SEQUENCE	netOGlyc-4.0.0.13	CARBOHYD	525	525	0.226517	.	.
SEQUENCE	netOGlyc-4.0.0.13	CARBOHYD	539	539	0.533323	.	.
SEQUENCE	netOGlyc-4.0.0.13	CARBOHYD	571	571	0.420087	.	.

[Explain](#) the output. Go [back](#).

Prosselkov P (2016) Cognitive domains function complementation by NTNG gene paralogs

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EMBOSS Stretcher

[Tools](#) > [Pairwise Sequence Alignment](#) > EMBOSS Stretcher

Results for job emboss_stretcher-l20141117-082914-0427-41977542-pg

Prosselkov P (2016) Cognitive domains function complementation by NTNG gene paralogs

```
#####
# Program: stretcher
# Rundate: Mon 17 Nov 2014 08:29:15
# Commandline: stretcher
#   -auto
#   -stdout
#   -asequence emboss_stretcher-I20141117-082914-0427-41977542-pg.asequence
#   -bsequence emboss_stretcher-I20141117-082914-0427-41977542-pg.bsequence
#   -datafile EBLOSUM62
#   -gapopen 12
#   -gapextend 2
#   -aformat3 pair
#   -sprotein1
#   -sprotein2
# Align_format: pair
# Report_file: stdout
#####

=====
#
# Aligned sequences: 2
# 1: EMBOSS_001
# 2: EMBOSS_001
# Matrix: EBLOSUM62
# Gap_penalty: 12
# Extend_penalty: 2
#
# Length: 57
# Identity:      10/57 (17.5%)
# Similarity:    15/57 (26.3%)
# Gaps:          15/57 (26.3%)
# Score:         -40
#
#
=====

EMBOSS_001      1 NPPK-----FNRIWPNISS-LEVSNPQVAP-----KLALSTVSSVQV      37
                  ...: . . . | . . . : | . | . . . . . | | . . . . | . | |
EMBOSS_001      1 KWTRPSTAAPLSSRWSQVASRAEAVGTPAAAPAPAKGYKLFQLPKSPQV      50

EMBOSS_001      38 A--NHKR      42
                  . . . . :
EMBOSS_001      51 MPIEEFQ      57

=====
```

Prosselkov P (2016) Cognitive domains function complementation by NTNG gene paralogs



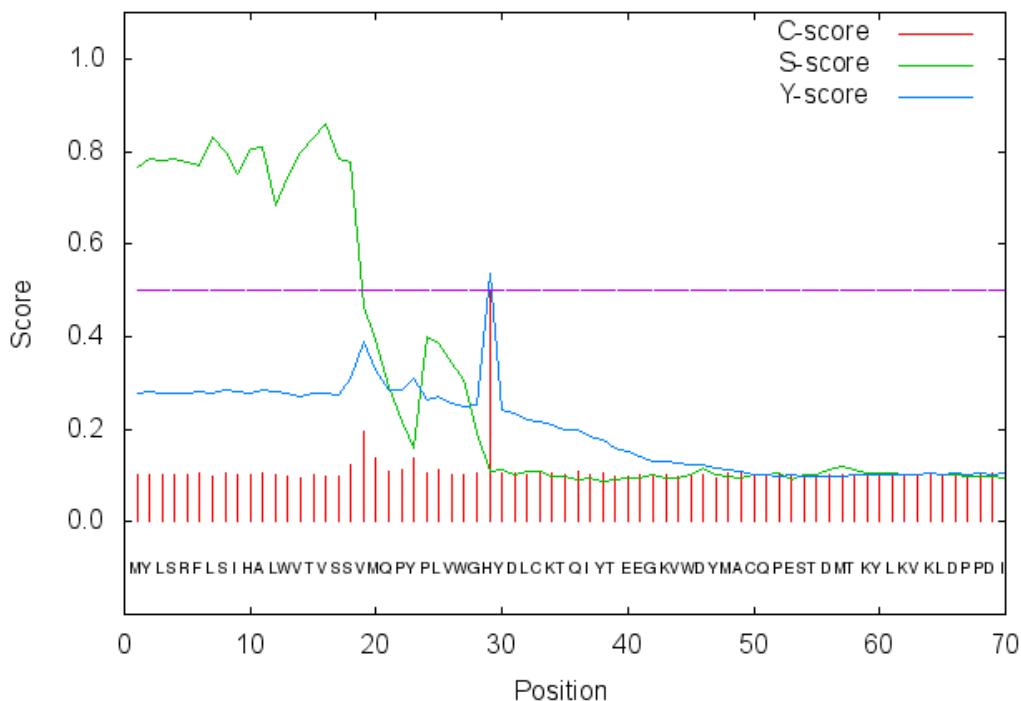
SignalP 4.1 Server - prediction results

Technical University of Denmark

SignalP-4.1 euk predictions

>Sequence

SignalP-4.1 prediction (euk networks): Sequence



Measure Position Value Cutoff signal peptide?

max. C 29 0.500

max. Y 29 0.535

max. S 16 0.858

mean S 1-28 0.617

D 1-28 0.580 0.450 YES

Name=Sequence SP='YES' Cleavage site between pos. 28 and 29: VWG-HY D=0.580 D-cutoff=0.450 Networks=SignalP-noTM

data

gnuplot script

Signal peptides: 1

processed fasta entries

gff file of processed entries

Please cite:

SignalP 4.0: discriminating signal peptides from transmembrane regions

Petersen TN., Brunak S., von Heijne G. & Nielsen H.

Nature Methods, 8:785-786, 2011

[Explain](#) the output. [Go back](#).

Prosselkov P (2016) Cognitive domains function complementation by NTNG gene paralogs

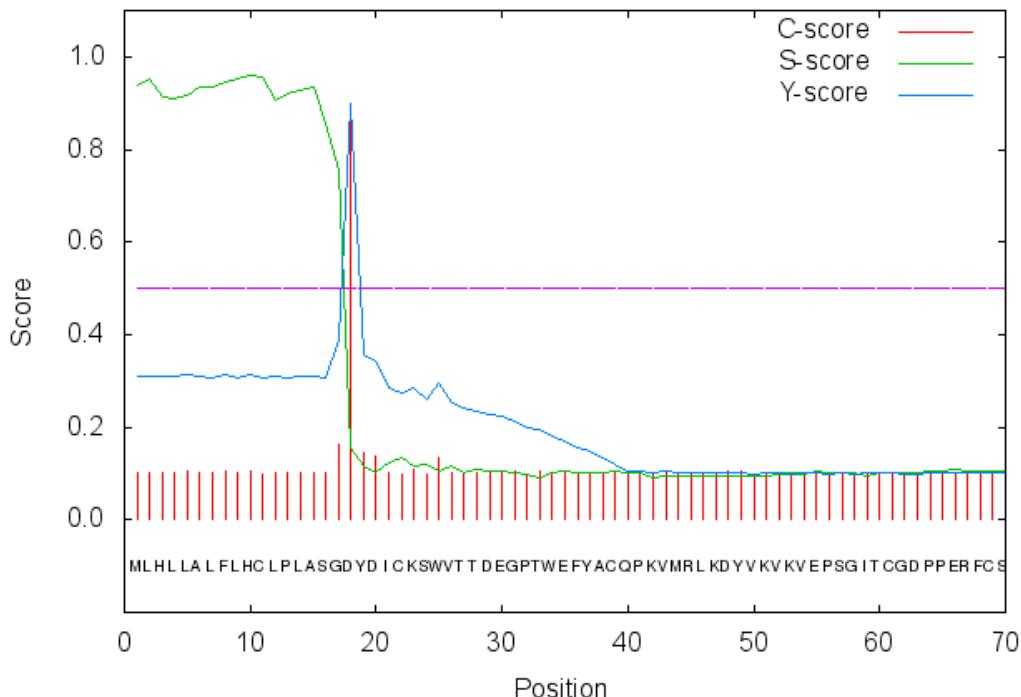
SignalP 4.1 Server - prediction results

Technical University of Denmark

SignalP-4.1 euk predictions

>Sequence

SignalP-4.1 prediction (euk networks): Sequence



Measure Position Value Cutoff signal peptide?

max. C 18 0.875

max. Y 18 0.899

max. S 10 0.959

mean S 1-17 0.918

D 1-17 0.909 0.450 YES

Name=Sequence SP='YES' Cleavage site between pos. 17 and 18: ASG-DY D=0.909 D-cutoff=0.450 Networks=SignalP-noTM

data

gff script

Signal peptides: 1

processed fasta entries

gff file of processed entries

Please cite:

SignalP 4.0: discriminating signal peptides from transmembrane regions

Petersen TN., Brunak S., von Heijne G. & Nielsen H.

Nature Methods, 8:785-786, 2011

[Explain](#) the output. [Go back](#).



GPI Lipid Anchor Project



big-PI Predictor

The GPI Prediction Server

Version 3.0, June 2005

Please, refer to ...

1. Eisenhaber B., Bork P., Eisenhaber F.
"Sequence properties of GPI-anchored proteins near the omega-site: constraints for the polypeptide binding site of the putative transamidase"
Protein Engineering (1998) 11, No.12, 1155-1161
2. Sunyaev S.R., Eisenhaber F., Rodchenkov I.V., Eisenhaber B., Tumanyan V.G., and Kuznetsov E.N.
"Prediction of potential GPI-modification sites in proprotein sequences"
Protein Engineering (1999) 12, No.5, 387-394
3. Eisenhaber B., Bork P., Eisenhaber F.
"Prediction of potential GPI-modification sites in proprotein sequences"
JMB (1999) 292 (3), 741-758
4. Eisenhaber B., Bork P., Yuan Y., Loeffler G., Eisenhaber F.
"Automated annotation of GPI anchor sites: case study *C.elegans*"
TIBS (2000) 25 (7), 340-341

Output of the prediction tool:

```
~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
Query sequence Query (length 581 amino acids):
MYLSRFLSIH ALWVTVSSVM QPYPLVWGHY DLCKTQIYTE EGKVWDYMAC QPESTDMDKY
LKVKLDPPDI TCGDPPETFC AMGNPYMCNN ECDASTPELA HPPELMFDDE GRHPSTFWQS
ATWKEYPKPL QVNITLSWSK TIELTDNIVI TFESGRPDQM ILEKSLDYGR TWQPYQYYAT
DCLDAFHMDP KSVKDSLQHT VLEIICTEEY STGYTTNSKI IHFEIKDRFA FFAGPRLRNM
ASLYGQLDTT KKLRDFFTVT DLRIRLLRPA VGEIFVDELH LARYFYAISD IKVRGRCKCN
LHATVCVYDN SKLTCECEHN TTGPDCGKCK KNYQGRPWS P GSYLPIP KGT ANTCIPS ISS
IGNPPKFNRI WPNISSLEVS NPKQVAPKLA LSTVSSVQVA NHKR DCECFG HSNRCSYIDL
LNTVICVSCK HNTRGQHCEL CRLGYFRNAS AQLDENVCI ECYCNP LGSI HDRCNGSGFC
ECKTGTGPK CDEC LPGN SW HYGCQP NVCD NELLHCQ NGG TCHNNVRC LCL PAAYTGILCE
KLRCEEAGSC GS DS GQGAPP HGSP ALLLLT TLLGTASPLV F
```

Best predicted site is shown in red. Alternative site (second best) is shown in orange.

~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~  
 Prediction of potential C-terminal GPI-Modification Sites  
 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

Use of the prediction function for METAZOA

Potential GPI-modification site was found.

Quality of the site : P

Sequence position of the omega-site :

555

Score of the best site : **7.07** (PValue = 4.524022e-04)

Potential alternative GPI-modification site was found (second best site).

Quality of the site : P

Sequence position of the omega-site : **552**

Score of the site : **3.13** (PValue = 9.713128e-04)



| Total Score..... | Best Site | Alternative Site |
|------------------|-------------|------------------|
| | 7.07 | 3.13 |

Components of the Score Function:

| Profile Score..... | Best Site | Alternative Site |
|---|-----------|------------------|
| Term 0 Contents and Windows of DE in Region [-11..1].....: | 7.36 | 3.45 |
| Term 1 Hydrophilicity of N-terminal Region [-11..1].....: | 0.00 | 0.00 |
| Term 2 Penalty for low Profile Score in Region [0..2].....: | 0.00 | 0.00 |
| Term 3 Volume Limitation [-1..+2].....: | 0.00 | 0.00 |
| Term 4 Volume Compensation (-1, 1, 2).....: | 0.00 | 0.00 |
| Term 5 Volume Compensation (-1, 2).....: | 0.00 | 0.00 |
| Term 6 Backbone Flexibility [-1..2].....: | 0.00 | 0.00 |
| Term 7 Propeptide Length.....: | 0.00 | 0.00 |
| Term 8 Hydrophilicity of Spacer Region [3..8].....: | 0.00 | 0.00 |
| Term 9 Volume Limitation [3..8].....: | 0.00 | 0.00 |
| Term 10 Penalty for charged AAs in Spacer Region [3..10]....: | 0.00 | 0.00 |
| Term 11 Backbone Flexibility [3..8].... ..: | 0.00 | 0.00 |
| Term 12 Penalty for low Profile Score in Region [10..end]...: | 0.00 | 0.00 |
| Term 13 Hydrophobicity of Tail [10..end].....: | 0.00 | -0.02 |
| Term 14 Hydrophobicity of Tail [26..end].....: | -0.29 | -0.29 |
| Term 15 Even Distribution of Hydrophobicity [9..end].....: | 0.00 | 0.00 |
| Term 16 Penalty for polar Windows in Region [10..end].....: | 0.00 | 0.00 |
| Term 17 Penalty for SGC-Windows in Region [10..end].....: | 0.00 | 0.00 |
| Term 18 LVI Contents [10..end].....: | 0.00 | 0.00 |
| Term 19 Penalty for FYHW - Sections in Region [10..end]....: | 0.00 | 0.00 |
| Term 20 Penalty for Windows with small Volume [10..end]....: | 0.00 | 0.00 |
| Profile independent Score.....: | -0.29 | -0.31 |

Last modified 17th June, 2005



GPI Lipid Anchor Project



big-PI Predictor The GPI Prediction Server

Version 3.0, June 2005

Please, refer to ...

1. Eisenhaber B., Bork P., Eisenhaber F.
"Sequence properties of GPI-anchored proteins near the omega-site: constraints for the polypeptide binding site of the putative transamidase"
Protein Engineering (1998) 11, No.12, 1155-1161
2. Sunyaev S.R., Eisenhaber F., Rodchenkov I.V., Eisenhaber B., Tumanyan V.G., and Kuznetsov E.N.
"Prediction of potential GPI-modification sites in proprotein sequences"
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3. Eisenhaber B., Bork P., Eisenhaber F.
"Prediction of potential GPI-modification sites in proprotein sequences"
JMB (1999) 292 (3), 741-758
4. Eisenhaber B., Bork P., Yuan Y., Loeffler G., Eisenhaber F.
"Automated annotation of GPI anchor sites: case study *C.elegans*"
TIBS (2000) 25 (7), 340-341

Output of the prediction tool:

~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

Query sequence Query (length 587 amino acids):

MLHLLALFLH CLPLASG DYD ICKSWVT TDE GPTWEFYACQ PKVMRLKD YV KVKEPS GIT  
CGDP PERFCS HENPYLCSNE CDASNPD LAH PPRLMFD KEE EGLATYWQ SI TWSRYP SPLE  
ANITLSWNK T VELTDDVV MFT FEYGRPT VMV LEKS LDNG RT WQPYQFYA ED CMEA FGMSAR  
RARDMSSSSA HRVLCTEEYS RWAGSKKEKH VRFEVRDRFA IFAGPDLRN M DNLYTRLES A  
KGLKEFFT LT DLRMRLLRPA LGGT YVQREN LYKYFYA ISN IEVIGRCKCN LHANLC SMRE  
GSLQCECEHN TTGPDCGKCK KNFRTR SWRA GS YLPLPHGS PNACATAGSF GKWT RPSTA A  
PLSSRWSQVA SRAEA VGT PAA AAPAPAKGYK LFQLKP KSPQ VMPIEF QDC ECYGH SNR CS  
YIDFLNVVTC VSCKHNT RGQ HCQH CRLG YY RNSA EL DDE NVCIECNCN Q IGSVHDRCNE  
TGFCECREGA AGPKCDDCLP THYWRQGCYP NV CDD DQ LLC QNGGTCLQ NQ RCAC PRGYTG  
VRCEQPRCDP ADDGGI LD C D RAP G AAPR PA TLLG C LLL LG LAAR LGR

Best predicted site is shown in red. Alternative site (second best) is shown in orange.

~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~  
 Prediction of potential C-terminal GPI-Modification Sites
 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

Use of the prediction function for METAZOA

Potential GPI-modification site was found.

Quality of the site ..... : P

Sequence position of the omega-site :

**564**

Score of the best site ..... : **7.58** (PValue = 4.070180e-04)

Potential alternative GPI-modification site was found (second best site).

Quality of the site ..... : S

Sequence position of the omega-site : **560**

Score of the site ..... : **-4.00** (PValue = 3.106230e-03)



| Total Score..... | Best Site   | Alternative Site |
|------------------|-------------|------------------|
|                  | <b>7.58</b> | -4.00            |

Components of the Score Function:

| Profile Score.....                                            | Best Site | Alternative Site |
|---------------------------------------------------------------|-----------|------------------|
| Term 0 Contents and Windows of DE in Region [-11..1].....:    | 7.71      | -1.35            |
| Term 1 Hydrophilicity of N-terminal Region [-11..1].....:     | 0.00      | 0.00             |
| Term 2 Penalty for low Profile Score in Region [0..2].....:   | 0.00      | 0.00             |
| Term 3 Volume Limitation [-1..+2].....:                       | 0.00      | -1.42            |
| Term 4 Volume Compensation (-1, 1, 2).....:                   | 0.00      | -1.16            |
| Term 5 Volume Compensation (-1, 2).....:                      | 0.00      | 0.00             |
| Term 6 Backbone Flexibility [-1..2].....:                     | 0.00      | 0.00             |
| Term 7 Propeptide Length.....:                                | 0.00      | 0.00             |
| Term 8 Hydrophilicity of Spacer Region [3..8].....:           | 0.00      | 0.00             |
| Term 9 Volume Limitation [3..8].....:                         | -0.06     | 0.00             |
| Term 10 Penalty for charged AAs in Spacer Region [3..10]....: | 0.00      | 0.00             |
| Term 11 Backbone Flexibility [3..8].... ..:                   | 0.00      | 0.00             |
| Term 12 Penalty for low Profile Score in Region [10..end]...: | 0.00      | 0.00             |
| Term 13 Hydrophobicity of Tail [10..end].....:                | 0.00      | 0.00             |
| Term 14 Hydrophobicity of Tail [26..end].....:                | -0.07     | -0.07            |
| Term 15 Even Distribution of Hydrophobicity [9..end].....:    | 0.00      | 0.00             |
| Term 16 Penalty for polar Windows in Region [10..end].....:   | 0.00      | 0.00             |
| Term 17 Penalty for SGC-Windows in Region [10..end].....:     | 0.00      | 0.00             |
| Term 18 LVI Contents [10..end].....:                          | 0.00      | 0.00             |
| Term 19 Penalty for FYHW - Sections in Region [10..end]....:  | 0.00      | 0.00             |
| Term 20 Penalty for Windows with small Volume [10..end]....:  | 0.00      | 0.00             |
| Profile independent Score.....:                               | -0.14     | -2.65            |

Last modified 17th June, 2005